ipd1200mddbvsvdTES-10

Defense Information Infrastructure (DII)

Common Operating Environment (COE)

Software Version Description (SVD) for the METOC DBDB-V Data (MDDBV) Segment of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database

Preliminary Release

Document Version 1.2

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1   SCOPE

1.1   Identification

This Software Version Description (SVD) describes the Meteorology and Oceanography (METOC) Digitized Bathymetric Data Base – Variable resolution (DBDB-V) Data (MDDBV) Segment, Version 1.1.1, of the Tactical Environmental Support System Next Century [TESS(NC)] METOC Database. The MDDBV segment provides storage for historical DBDB Data. This software is designed to run under the Defense Information Infrastructure (DII) Common Operating Environment (COE), release 3.1, on a Hewlett-Packard computer running HP-UX 10.20 or a personal computer running the Microsoft Windows NT 4.0 operating system with Service Pack 3.

1.2   System Overview

The database described in this document forms a portion of the METOC Database component of the TESS(NC) Program (Navy Integrated Tactical Environmental Subsystem (NITES) Version I). On 29 October 1996, the Oceanographer of the Navy issued a TESS Program Policy statement in letter 3140 Serial 961/6U570953, modifying the Program by calling for five seamless software versions that are DII COE compliant, preferably to level 5.

The five versions are:

- NITES Version I   The local data fusion center and principal METOC analysis and forecast system (TESS(NC))

- NITES Version II   The subsystem on the Joint Maritime Command Information System (JMCIS) or Global Command and Control System (GCCS) (NITES/Joint METOC Segment (JMS))

- NITES Version III   The unclassified aviation forecast, briefing, and display subsystem tailored to Naval METOC shore activities (currently satisfied by the Meteorological Integrated Data Display System (MIDDS))

- NITES Version IV   The Portable subsystem composed of independent PCs/workstations and modules for forecaster, satellite, communications, and Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance (IC4ISR) functions (currently the Interim Mobile Oceanographic Support System (IMOSS))

- NITES Version V   Foreign Military Sales (currently satisfied by the Allied Environmental Support System (AESS))

NITES I acquires and assimilates various METOC data for use by US Navy and Marine Corps weather forecasters and tactical planners. NITES I provides these users with METOC data, products, and applications necessary to support the warfighter in tactical operations and decision making. NITES I provides METOC data and products to NITES I and II applications, as well as non-TESS(NC) systems requiring METOC data, in a heterogeneous, networked computing environment.

The TESS(NC) Concept of Operations and system architecture require that the METOC Database be distributed both in terms of application access to METOC data and products and in terms of physical location of the data repositories. The organizational structure of the database is influenced by these requirements, and the components of this distributed database are described below.

In accordance with DII COE database concepts, the METOC Database is currently composed of five DII COE-compliant *shared database* segments and one DII COE-compliant data segment. Associated with each shared database and data segment is an Application Program Interface (API) segment. This organization is shown in Figure 1-1. The segments are arranged by data type as follows:

Data Type	**Data Segment**	**API Segment**
Grid Fields	MDGRID	MAGRID
Latitude-Longitude-Time (LLT) Observations	MDLLT	MALLT
Textual Observations and Bulletins	MDTXT	MATXT
Remotely Sensed Data	MDREM	MAREM
Imagery	MDIMG	MAIMG
Historic Bathymetry Data	MDDBV	MADBV
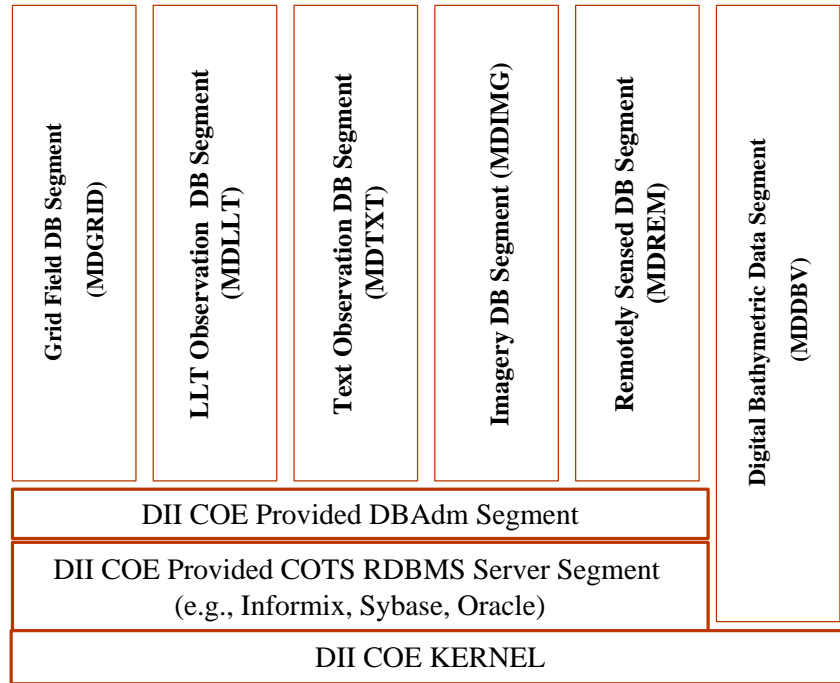
Figure 1-1. TESS(NC) METOC Database - DII COE Segment View

Typical client-server installations access shared database segments via a COTS RDBMS client/server as shown in Figure 1-2. This shows the shared database segments residing on a DII COE SHADE database server, with a NITES I or II client machine hosting the API segments. Communication between API segments and shared database segments is accomplished over the network using ANSI-standard Structured Query Language (SQL).

NITES I/II under HP-UX *NITES I/II under Windows/NT*

App   App   App

TEDS API Segments

**Data &
Products**

METOC Database Segments

COTS RDBMS Server Segments

DII COE KERNEL

App   App

TEDS API Segments

**Data &
Products**

**COTS RDBMS <u>Client</u>
Segment**
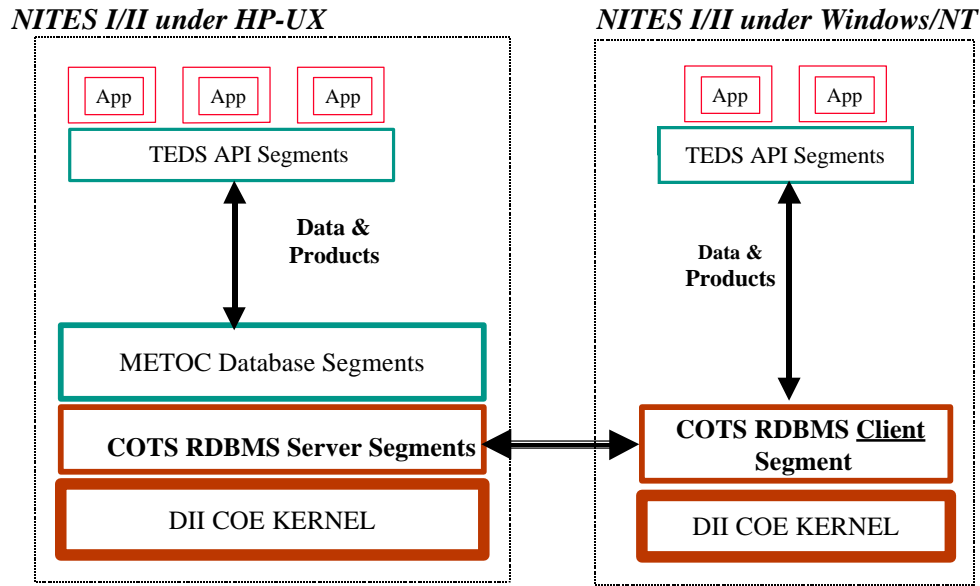
DII COE KERNEL

Figure 1-2. Distributed APIs via COTS RDBMS Client/Server Functionality

Data Segments are static files of historic data. DII COE data segments are available over a distributed network via DII COE Kernel Service (NFS). In this case, the data segments are accessed directly by the distributed APIs (Figure 1-3). The platform running the applications needing the data must first mount the file system containing the data segment. The remote system may then access the data from the mounted drive using NFS services. Access to the mounted drive is then transparent to the application/API utilizing the data.

NITES I/II under HP-UX *NITES I/II under Windows/NT*

App   App   App

TEDS API Segments

Data & Products

METOC DB Data
Segments (OAML DBs)

DII COE KERNEL

App   App

TEDS API Segments

**Data & Products
via NFS Services**
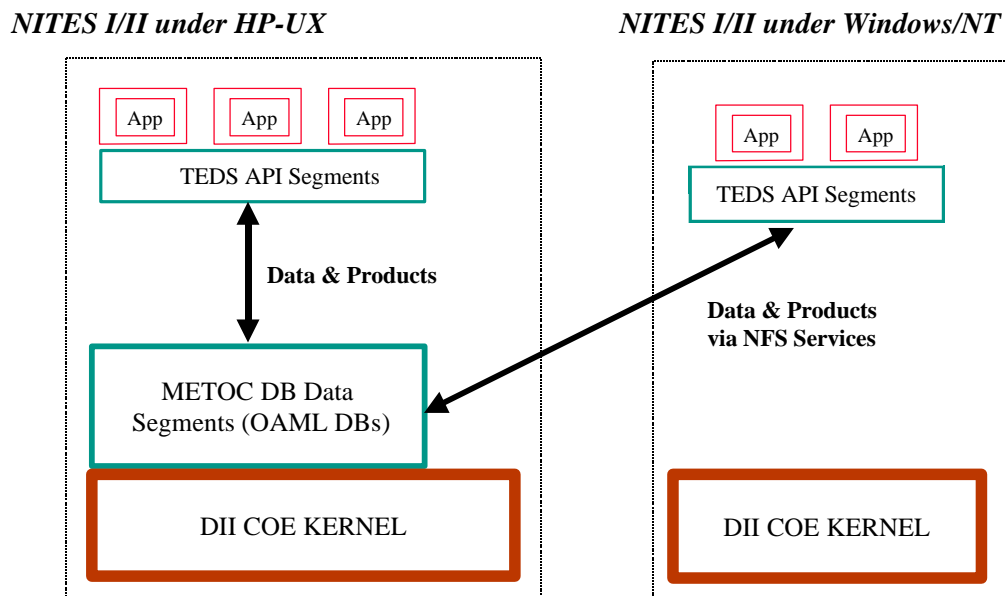
DII COE KERNEL

Figure 1-3. Distributed APIs via DII COE Kernel Services (NFS)

The MDDBV segment deals with historic bathymetry data. The data are generated from the Oceanographic and Atmospheric Master Library (OAML) DBDB-V data and provide global water depth at various resolutions throughout the world.

1.3   Product Information

1.3.1   Product Qualification

Test and Evaluation (T&E) of the software was performed at IPD's Middletown, RI facility prior to delivery of the software.

1.3.2   Product Restrictions

IPD's intellectual property rights to deliverables defined in this document are covered by the copyright license under the clause in DFARS 252.227-7013 (Nov. 1995).

1.3.3   Product Dependencies

The MDDBV segment is hosted on the following hardware:

• Tactical Advanced Computer, TAC-3 (HP 750/755)/TAC-4 (HP J210)

The operating system requirements are:

• TAC-3/TAC-4: HP-UX 10.20

The kernel requirements are:

• Kernel 3.0.1.0 with patches through P5

The following software must be properly installed prior to loading the MDDBV segment:

• Appropriate operating system (as described above)
• Appropriate DII COE Kernel (as described above)

2   REFERENCED DOCUMENTS

2.1   Government Documents

Unnumbered   *Database Design Description for the Tactical Environmental*
30 September 1997   *Support System/Next Century [TESS(NC)] Meteorological and*
                    Oceanographic (METOC) Database, Space and Naval Warfare
                    Systems Command, Environmental Systems Program Office
                    (SPAWAR PMW-185), Washington, DC

ipd1100mddbvipTES-10   *Installation Procedures (IP) for the METOC DBDB-V Data*
2 October 1998   *(MDDBV) Segment of the Tactical Environmental Support System*
                       Next Century [TESS(NC)] Meteorology and Oceanography
                       (METOC) Database

2.2   Non-Government Documents

None.

3   VERSION DESCRIPTION

3.1   Inventory of Materials Released

All physical media and associated documentation for the MDDBV segment are listed below.

- MDDBV segment v1.1.1 (HP-UX) Installation Tape (4 mm DAT cartridge for TAC-3/ TAC-4 hardware)

- MDDBV segment v1.1.1 SVD, dated 2 October 1998.

3.2   Inventory of Software Contents

A list of all executables and environment files delivered is contained in Appendix A of this document.

3.3   Changes Installed

A list of changes installed is contained in Appendix B of this document.

3.4   Waivers

There are no waivers associated with this software.

3.5   Adaptation Data

There are no unique-to-site data contained in the MDDBV 1.1.1 release.

3.6   Installation Instructions

The MDDBV segment v1.1 series IP referenced in Section 2 of this document provide comprehensive installation instructions for the MDDBV segment. The fully installed segment occupies approximately 88.44 MB of disk space. The software requires a minimum of 128 MB of RAM, with 192 MB recommended.

3.7   Possible Problems and Known Errors

Known problems and errors with MDDBV software are listed in Appendix C of this document.

4   NOTES

4.1   Glossary of Acronyms

AESS   Allied Environmental Support System

API   Application Program Interface

COE   Common Operating Environment

DBDB-V   Digitized Bathymetric Data Base - Variable resolution

DII   Defense Information Infrastructure

GCCS   Global Command and Control System

IC4ISR   Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance

IMOSS   Interim Mobil Oceanographic Support System

IP   Installation Procedures

JMCIS   Joint Maritime Command Information System

JMS   Joint METOC Segment

LLT   Latitude-Longitude-Time

MDDBV   METOC DBDB-V Data Segment of the TESS(NC) METOC Database

METOC   Meteorology and Oceanography

MIDDS   Meteorological Integrated Data Display System

NITES   Navy Integrated Tactical Environmental Subsystem

OAML   Oceanographic and Atmospheric Master Library

SQL   Structured Query Language

SVD   Software Version Description

T&E   Test and Evaluation

TESS(NC)   Tactical Environmental Support System Next Century

Appendix A -   List of Executables and Environment Files

A.1   File Structure for HP-UX Delivery

```
/home/MDDBV
total 4
drwxrwxr-x  2 COE        COE             1024 Sep 19 01:04 Integ
drwxr-xr-x  2 COE        COE             1024 Sep 29 01:53 SegDescrip

/home/MDDBV/Integ
total 2
-rw-rw-r--  1 COE        COE               97 Sep 18 20:51 VSOutput

/home/MDDBV/SegDescrip
total 16
-rwxr-xr-x  1 COE        COE              239 Sep 18 20:47 DEINSTALL
-rw-r--r--  1 COE        COE              459 Sep 18 20:47 SegName
-rw-r--r--  1 COE        COE              172 Sep 18 20:47 VERSION
-rw-r--r--  1 COE        COE              419 Sep 18 20:47 ReleaseNotes
-rwxr-xr-x  1 COE        COE              570 Sep 18 20:47 PostInstall
-rw-r--r--  1 COE        COE              743 Sep 18 20:51 SegInfo
-rw-rw-rw-  1 COE        COE              121 Sep 18 20:51 Validated
-rw-rw-rw-  1 root       other            135 Sep 19 01:04 Installed
```

Appendix B - Changes/Updates Since Preliminary Release

This release made the following changes:

Pri	PTR #	Summary
3	205	The environmental variable MDDBV_HOME is not being set during installation.
5	218	Change DBDBV Contour Database to handle multiple resolutions.

Appendix C -   Known Problems and Errors

There are no known problems or errors associated with this release of the MDDBV segment.